

REMARKS

Claims 1-11 are pending.

Claims 1-11 are rejected.

Claim 1 is amended.

Amendment to the Specification

The disclosure is objected to because the "C" in Table 1 on page 13 should be "B". Examiner appears to be correct and the Table has been amended as suggested.

Claim 1 is amended

The claim 1 amendments are based on the last two paragraphs of page 5. With regard to the deletion of the wording "and then fully inverts during further dewatering form a cake" it is clear from the discussion in the last paragraph of page 5 that the reverse phase polymer can fully invert into the thickened suspension; the polymer released mixed and distributed throughout the thickened suspension; and the thickened suspension subjected to mechanical dewatering to form a cake. This is also supported by the example.

No new matter is added.

35 USC 103(a)

Claims 1-11 are rejected under 35 USC 103(a) as being unpatentable over WO02/072482, Weir.

Weir is directed to a process of operating and dewatering an aqueous suspension of suspended solids in which a polymer composition of between 40% and 60% by weight, which may be a reverse-phase polymer, and a polymer composition of between 0.05 and 0.2% by weight introduced substantially simultaneously.

The examiner opines that the reverse-phase polymer added in the suspension of Weir would appear to invert in the suspension to bring about flocculation, thickening and cake formation, since the same polymers and amounts appear to be used to dewater the same types of aqueous suspensions. The examiner contends that it would have been obvious to the skilled person to modify the process of Weir by utilising the recited polymer inversion, to aid in the dewatering the suspension.

However, the process of claim 1 of the present invention requires three steps namely,

- flocculation and thickening of the suspension requiring release of free water as a result of partial inversion of the reverse-phase polymer;
- mixing and distributing the remainder of the polymer released from the fully inverting reverse-phase polymer throughout the thickened sludge; and
- mechanically dewatering the thickened sludge so as to form a cake.

Weir refers to a desire to improve the efficiency of flocculation processes and refers to higher cake solids as an indication or increased dewatering effect in the last paragraph of page 2. There is no other mention of producing a cake and certainly nothing in this document to suggest that the process of Weir would have resulted in a cake.

Weir refers to the invention being applicable to a variety of flocculation and dewatering processes in the penultimate paragraph of page 6 but does not provide any details of how this may be achieved. In both examples of Weir the flocculation efficiency of reverse-phase polymer with a diluted polymer solution on sewage sludge is measured by free drainage using a sieve. This release of water by drainage and filtration would result in thickening of the sludge. There is no mention of mixing of the thickened sludge and there is no mention of mechanically dewatering the thickened sludge.

Therefore Weir is silent on both:

- the mixing step and;
- the mechanical dewatering step.

Weir claims to demonstrate improved dewatering efficiency by measuring free drainage on sewage sludge when treated with a combination of reverse-phase polymer and dilute polymer solution and compares this with employing each of the reverse-phase polymer and dilute solutions alone. There is nothing to suggest in this document that only partial inversion of the reverse-phase polymer occurred when it was directly added to the suspension. Indeed even if only partial inversion did occur, although this was not indicated by Weir, there is nothing in this document that would suggest mixing the thickened sludge with subsequent mechanical dewatering. In fact the only suggestion by Weir to improve flocculation is to add a dilute polymer composition simultaneously with the reverse-phase polymer. Upon reading Weir it would not be evident to the skilled person that partial inversion of the

reverse-phase polymer first occurred and it would not be evident the skilled person that improved cake solids could be achieved by subjecting the thickened sludge to mixing prior to a mechanical dewatering stage.

Referring to the example of the present application it is clear that data set 1 in which the thickened suspension was mixed before mechanical dewatering provided significantly improved cake solids over data set 3 in which there was no mixing. This significant improvement in cake solids could not have been predicted from anything stated in Weir.

Consequently the process of claim 1 of the instant invention is not rendered obvious over the disclosure of Weir.

Reconsideration and withdrawal of the rejection of claims 1-11 is respectfully solicited in light of the remarks and amendments *supra*.

Since there are no other grounds of objection or rejection, passage of this application to issue with claims 1-11 is earnestly solicited.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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